

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KENT PEAY, DAVID A. McCLOSKEY
and JAN M. ANDERSSON

Appeal No. 96-3031
Application 08/098,062¹

ON BRIEF

Before ABRAMS, STAAB, McQUADE, Administrative Patent Judges.
McQUADE, Administrative Patent Judge.

DECISION ON APPEAL

This appeal was taken from the final rejection of claims 1, 2, 6 through 9, 13, 14 and 26. The examiner has since indicated claim 26, which was amended subsequent to final rejection, to stand allowed. Thus, the appeal as to claim 26 is hereby dismissed, leaving for review the standing rejection of claims 1,

¹ Application for patent filed July 28, 1993.

2, 6 through 9, 13 and 14. Claims 15, 16, 18, 20 through 22 and 24, the only other claims pending in the application, also stand allowed.

The invention relates to "a cutting insert for use in a drill bit for cutting holes in a mine roof" (specification, page 1). Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A cutting insert for a rotary roof bit used for drilling holes in a mine roof, comprising a body formed of hard material and including first and second main surfaces, first and second end surfaces, a bottom surface, and a top surface; said first and second main surfaces being spaced apart by a thickness of said body; said first and second end surfaces being spaced apart by a width of said body; said top and bottom surfaces being spaced apart by a height of said body; a maximum width of said body being greater than a maximum height of said body; said top surface including first and second top sections, said first top section intersecting said first main surface to define therewith a first cutting edge; said first top section being inclined downwardly from said first cutting edge to said second main surface to form a relief; said second top section intersecting said second main surface to define therewith a second cutting edge; said second top section being inclined downwardly from said second cutting edge to said first main surface to form a relief; each of said first and second cutting edges comprising a plurality of cutting edge segments forming obtuse angles between one another as said insert is viewed in a direction perpendicular to said main surfaces; an outermost one of said cutting edge segments of each cutting edge forming an angle of at least 120 degrees with said respective end surface, said body including an axial notch disposed at a center of said top surface between said cutting edges, said notch extending completely across the thickness of said body.

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The prior art items relied upon by the examiner as evidence of obviousness are:

Nance	5,269,387	Dec. 14, 1993
		(filed Feb. 27, 1992)

The prior art roof bit insert discussed in lines 13 through 24 on page 2 in the appellants' specification (the admitted prior art roof bit insert).

Claims 1, 2, 6 through 9, 13 and 14 stand rejected under 35 U.S.C. § 103 as being unpatentable over Nance in view of the admitted prior art roof bit insert.

Reference is made to the appellants' main and reply briefs (Paper Nos. 16 and 18) and to the examiner's answer (Paper No. 17) for the respective viewpoints of the appellants and the examiner with regard to the propriety of this rejection.² Since the appellants, stating that "[a]ll claims stand or fall together" (main brief, page 4), have not argued separately the patentability of any particular claim apart from the others, all of the appealed claims shall stand or fall with representative

² In a footnote on page 5 in the main brief, the appellants refer to an affidavit (actually a declaration), submitted on May 15, 1995 (Paper No. 12), containing data purportedly "demonstrating the improved penetration rate obtained by the presently claimed insert." The examiner, however, has refused to enter the declaration into the record (see the advisory action dated May 24, 1995, Paper No. 14). Accordingly, we have not considered the declaration in reviewing the merits of the rejection on appeal.

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claim 1 (see In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978)).

Nance discloses a mine roof tool bit insert which the appellants concede "possesses the features recited in the claims on appeal except for the center notch" (main brief, page 4).

The admitted prior art roof bit insert is described on page 2 in the appellants' specification as follows:

It has been conventional to provide a roof bit insert 10' with a center notch N, as shown in FIG. 2A. By replacing the chisel edge 16 with such a notch, the penetration rate of the conventional roof bit is increased. In that regard, a chisel edge does not perform a cutting action as such, but rather serves to grind or pulverize the center region of the hole being drilled. That, however, is not an efficient or rapid way to remove rock material. By providing a center notch in lieu of a chisel, a center core of rock material will be formed which can be more easily broken into fragments, thereby improving the penetration rate.

According to the examiner,

applicants admitted in page 2, lines 13-24 that it is conventional to provide a roof bit insert with a center notch to improve the penetration rate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the insert of Nance '387 with a center notch for the advantage pointed out above [answer, page 3].

The appellants, on the other hand, take the position that this combination of Nance and the admitted prior art would not

have been obvious because the proposed modification of the Nance insert would "likely be at the expense of reduced wear life" (main brief, page 5) and thus runs counter to Nance's repeatedly stated objective of increasing wear resistance.

The discussion in the last paragraph on page 7 of the appellants' specification lends support to the assertion that the proposed modification of the Nance insert would be at the expense of reduced wear life. Nonetheless, both Nance (see column 2, lines 49 through 52) and the appellants' admission establish that increased penetration rate also is a desired characteristic of mine roof cutting inserts. Indeed, the combined teachings of Nance and the admitted prior art demonstrate that the artisan would have readily appreciated the proposed modification of the Nance cutting insert as involving a relatively simple and straightforward tradeoff of one known advantageous property (increased wear life) for another (increased penetration rate). In this light, the differences between the subject matter recited in representative claim 1 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

Accordingly, we shall sustain the standing 35 U.S.C. § 103 rejection of claim 1 and of claims 2, 6 through 9, 13 and 14

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which stand or fall therewith.

The decision of the examiner is affirmed.

As a final matter, it is noted that the term "said chisel cutting edge portion" in independent claim 8 lacks a proper antecedent basis and that claim 8 and dependent claim 13 apparently utilize inconsistent terminology, i.e. "second cutting edge segment" (claim 8) and "innermost cutting edge segment" (claim 13), to refer to the same cutting edge segment. It is also noted that the recitation of both a notch and a chisel edge or chisel edge portion in appealed claim 8 and in allowed claims 18 and 24 appears to be inconsistent with the indication in the underlying specification that these two features are mutually exclusive. These areas of concern should be appropriately addressed upon return of the application to the examining group.

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED

NEAL E. ABRAMS)	
Administrative Patent Judge)	
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LAWRENCE J. STAAB)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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)	
JOHN P. McQUADE)	
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APPENDIX